

CSC 241 Midterm Exam
Spring 2023

Except for the last page, all questions must be completed with the computer screen turned off. After you have handed in your answers, you may use the computer to write the scripts indicated on the last page.

For multiple choice, indicate the best answer.

1. An example of a literal list of integers in Python is
 - a) "25 34 45"
 - b) "cat dog cow"
 - c) [26, 27, 28]
 - d) ["c23", "48", "cat"]
2. The expression **eval("23.5")** function evaluates to (i.e. returns)
 - a) a string.
 - b) an integer.
 - c) a floating point value.
 - d) an array.
3. An example of a Python expression that evaluates to a string is
 - a) 10 // 3
 - b) int("34")
 - c) input("Type in any number: ")
 - d) 25 < 38
4. Assume that the variable **answer** has been set to the number 12. Then the Python plus ('+') operation in the expression "**The answer is** " + **str(answer)**
 - a) performs arithmetic addition.
 - b) produces an error.
 - c) converts the string to a number.
 - d) performs string concatenation.
5. An example of a Python Boolean expression is
 - a) 10 // 3
 - b) str(34)
 - c) float("25")
 - d) 25 == val

For the next questions, provide the **print output** that each of the Python scripts produces. You can assume that all statements run without any errors. (5 points each)

6. Python script:

```
val1 = "stop"
val2 = "go"
combo = len(val1) + len(val2)
print("Answer: " + val2[0])
print("Signal: " + str(combo))
```

7. Python script:

```
farm = ["cow", "sheep", "cow", "pig"]
key = "sheep"
new_list = []
for element in farm:
    print("Checking " + element)
    if key != element:
        new_list.append(element)
print("Result: {}".format(len(new_list)))
```

8. Python script:

```
val1 = 0
val2 = 28
if val2 == 28:
    print("green")
    if val1 == 0:
        print("teal")
    elif val1 < val2:
        print("blue")
    else:
        print("orange")
else:
    print("red")
print("yellow")
```

9. Python script:

```
def loopy(limit):
    print("Goal: " + str(limit))
    tally = 0
    for counter in range(limit):
        print("Round: " + str(counter))
        tally = tally + counter
        print("Loop Tally: " + str(tally))
    print("last print")
    return tally

tally = loopy(3)
print("Result: " + str(tally))
```

Use a computer to complete the questions on this last page. Paste your answers into a text file called midterm.txt and submit it to D2L in the midterm dropbox. You may want to refer to the code from the previous questions for help with your answers. Always submit your best effort, even if the code doesn't fully work. (5 points each)

10. Write a Python script (short program) that reads in a string (user input) in response to the prompt "What is the password?" If the user input is "kindness" or "caring", the program should print "Welcome!" Otherwise, it should print the message: "Answer with x letters is not correct" where x is the number of characters in the string provided by the user. Below are examples of how the script should run:

Example 1:

```
What is the password? kindness
Welcome!
```

Example 2:

```
What is the password? lost
Answer with 4 letters is not correct
```

Example 3:

```
What is the password? caring
Welcome!
```

11. Write a Python script that reads in (using input) a whole positive number. If the number is greater than 5, it should print "Hello x times!" where x is the number. Otherwise, it should use a loop to print out "Hello!" the given number of times, once per line. Below are examples of how the script should run:

Example 1:

```
Enter a whole positive number: 23
Hello 23 times!
```

Example 2:

```
Enter a whole positive number: 4
Hello!
Hello!
Hello!
Hello!
```

12. Write a **function** called `edge_count`. It should take one argument that is a list of strings. It should return the number of times that a string in the list has the same starting character as the ending character. For example, if the following expression were typed into the interactive shell:

```
same_edge_count(["kayak", "sheep", "bib", "walrus", "a"])
```

The function should return the number **3**. You may assume that every string in the list has at least one character.